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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,165	01/22/2002	Robert K. Brown	6219.850	7935

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EXAMINER

KASTLER, SCOTT R

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/051,165

Applicant(s)

BROWN ET AL.

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18, 20-26 and 28-32 is/are rejected.
- 7) ☒ Claim(s) 19 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved. b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Swain. Swain teaches a purging system for a blast furnace including a sensor (29) mounted exterior of a powder delivery tube (31) for monitoring the flow of a powder through the tube, a source of fluid under pressure (purge water through valve 27) and a controller (37-57) for controlling the first valve in response to the signal from the sensor (see col. 4 lines 54-67 ) and a second valve (23) normally open, but controlled by the controller (see col. 2 lines 45-57, where the valve 23 can be operated automatically), thereby showing all aspects of the above claims.

Claims 1, 4, 7, 8, 10-15 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese'409. Japanese'409 teaches a method and apparatus for clearing accumulations of coal in a coal delivery tube in a blast furnace tuyere system including a coal delivery lance (6, including a source of powdered coal and a carrier fluid), a source of purge fluid under pressure (7) and connected to the coal lance (6), the coal lance entering a blast furnace tuyere (2), a temperature sensor, which may be in the form of a thermocouple (4) mounted exterior of the coal lance and arranged to monitor the temperature of the exterior of the coal lance; where in response to the temperature detected by the sensor (4) a controller (5) operates to shut off coal delivery through the lance and opening of valve (8) allowing for purge fluid through pipe (7) to enter the

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coal delivery tube and clear any coal powder accumulations, thereby showing all aspects of the above claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5, 6, 9, 16-18, 20-25 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese'409. as applied to claim 1 above, Japanese'409 shows all aspects of the above claims except the specific use of additional valves for the opening and closing of sources of the powdered material and pressurized fluid, although Japanese'409 would require that these sources be started and stopped periodically. Japanese'409 also shows that the use of valves (8) for the control of flow of materials through pipes is an expedient well known in the art. Because Japanese'409 discloses that valves are known for material flow control, and Japanese'409 also teaches that the flow of both the powdered material and the pressurized fluid should be controlled, motivation to include known flow controllers, in the form of valves, as taught by Japanese'409 at any point where flow control is required, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

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*Allowable Subject Matter*

Claims 19 and 27, which require that the temperature sensor be mounted on the exterior of the powder delivery tube, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Each of Guzdar and Brown et al are also cited as examples of powder accumulation clearing systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (703) 308-2506. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-3050. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

  
Scott Kastler  
Primary Examiner  
Art Unit 1742

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